International Journal of
SATELLITE COMMUNICATIONS (*Int. J. Satell. Commun.*)

CONTENTS

VOLUME 8, ISSUE Nos 1–6

ISSUE NO. 1 January–February

A Carrier-phased Satellite Receiving Array: P. V. Brennan 1

A Unified Statistical Rain-attenuation Model for Communication Link Fade Predictions and Optimal Stochastic Fade Control Design using a Location-dependent Rain-statistics Database: R. M. Manning 11

Adaptive Modulation as a Fade Countermeasure. An Olympus Experiment: M. Filip and E. Vilar 31

Land Mobile Communications in K_u-band. Results of a Test Campaign on EUTELSAT I–FI: J. Dutronc and J. N. Colcy 43

ISSUE No. 2 March–April

Influence of Signal Constellation on the Performance of 16-ary DEQAM Transmission through a Regenerative Satellite Link: S. W. Cheung 65

Simulation of an On-board Hierarchical Multistage Digital FDM Demultiplexer for Mobile SCPC Satellite Communications: H. Eyssele and H. Göckler 79

On the Digital Signal Processor Based Programmable Real-time Reed–Solomon Coding–Decoding System: O. Y. J. Zheng and L. Z. Yong 95

Propagation Requirements for the Performance Evaluation of Advanced Satellite Systems with Shared Resources: F. Barbaliscia and A. Paraboni 99

Optimization of Satellite Orbital Positions using an Objective Function Related to Aggregate Interference Levels: J. M. P. Fortes and E. C. Ribeirete 103

A Statistical Model of FM–TV Spectra for Satellite Interference and Distortion Prediction: A. M. Böck, D. C. Carpenter and A. P. Gallois 111

ISSUE No. 3 May–June

(Special Issue on Radiowave Propagation on Microwave Links in Tropical Regions. Guest Editor: J. E. Allnutt)

Editorial 117

Introduction 119

The INTELSAT Slant-path Radiowave Propagation Experiments in Tropical Regions: J. E. Allnutt and D. V. Rogers 121

CCIR Data for Slant-path Propagation in Tropical Regions: A Critical Review: K. A. Hughes 127

The Joint African Radiometric Propagation Measurement Programme: B. Arbesser-Rastburg, C. Zaks, D. K. McCarthy, D. V. Rogers and J. E. Allnutt 141

Abstracted/indexed by Cambridge Scientific Abstracts, Current Contents, Engineering Index, Information Reports & Bibliographies, INSPEC, SCI-SEARCH Database, Telecommunications Abstracts and Telescope Networks

Rainfall Rate Characteristics for Microwave Systems in Tropical and Equatorial Areas: F. Moupfouma, L. Martin, N. Spanjaard and K. Hughes 151

Some Aspects of Tropical Rainfall and their Effect on Microwave Propagation: G. O. Ajayi 163

The Measurement of Rainfall in Papua New Guinea, and its Effect on Microwave Propagation: D. J. Harris and E. Milner 173

Tropical Rainfall Drop-size Distribution: L. R. Maciel and M. S. Assis 181

Prediction of Attenuation due to Rain: Characteristics of the 0°C Isotherm in Temperate and Tropical Climates: G. O. Ajayi and F. Barbaliscia 187

Modelling Attenuation by Rain in Tropical Regions: R. K. Crane 197

Elevation Angle Dependence in Tropical Regions: B. J. Bowthorpe, F. B. Andrews, C. J. Kikkert and P. L. Arlett 211

Frequency scaling of Slant-path Attenuation in Tropical Regions: B. J. Bowthorpe, G. H. Allen, C. J. Kikkert, J. E. Allnutt and P. L. Arlett 223

11·6 GHz Rain Attenuation Measurements in Peru: A. W. Dissanayake, D. K. McCarthy, J. E. Allnutt, R. Shepherd and B. Arbesser-Rastburg 229

K_u-band Slant-path Radiometric Measurements at Three Locations in Brazil: M. S. Pontes, L. A. R. Silva Mello and C. G. S. Migliora 239

Measurements of 11 GHz Attenuation using the INTELSAT V Beacon in Indonesia: M. Juy, R. Maurel, M. Rooryck, I. A. Nugroho and T. Hariman 251

Conceptual Design of Rain Radar for the Tropical Rainfall Measuring Mission: K. Nakamura, K'I. Okamoto, T. Ihara, J. Awaka and T. Kozu 257

Preliminary Plans for a Propagation Experiment in Mali: F. Haidara, T. Pratt and C. W. Bostian . 269

ISSUE No. 4 July–August

Meteor Burst Link Performance Sensitivity to Antenna Pattern, Power Margin and Range: R. I. Desourdis Jr., S. C. Merrill, J. H. Wojtaszek and K. Hernandez 277

Trends in Satellite Communications Technology, Techniques and Applications: A. Sinha, B. Agrawal and W. W. Wu 283

Two Signals in the Hard-limiting Satellite Transponder: M. J. Andresen 295

Performance Analysis of a Multiple Transmission Protocol for VSAT Networks: D. R. Vaman and S. Kumar 307

Design and Implementation of the SREJ–ALOHA Access Protocol for VSAT Data Networks: D. Raychaudhuri, B. A. Connolly, K. Joseph and R. J. Siracusa 313

A New Open-loop Ranging Method for SSTDMA Network Synchronization: L.-K. Shark, T. J. Terrell and R. J. Simpson 323

BOOK REVIEWS 333

ISSUE No. 5 September–October

Obituary: Appreciation of the Work of Professor Adrian Clark: B. Evans 335

Doppler-shift Correction for A UQPSK Satellite Modem: A. P. Clark and A. Aftelak 337

Doppler-shift Correction by the DFT, for a QPSK Satellite Modem: A. P. Clark, A. Aftelak, M. Savjani and C. Ang 349

M-ary FSK with Limiter Discriminator Integrator Detection and DPSK with Differential Phase Detection in a Rician Fading Channel: I. Korn 363

Radiation Analysis and Errors Associated with the Monopulse Operation of a Satellite Direction Finder: M. S. Afifi 369

Performance of a Circular Signal Set in a Regenerative Satellite System Employing TWTA or SSPA: S. W. Cheung 379

Analysis of Random Multiple Access Transmission System: N. Phinainitisart and W. W. Wu 391

ISSUE No. 6 November–December

(Special Issue on Baseband Processing. Guest Editor: S. Joseph Campanella)

Foreword: Digital Circuit Multiplication: S. J. Campanella 399

Operating Aspects of New LRE/DSI DCMEs: S. J. Campanella and J. H. Reiser 403

INTELSAT Digital Circuit Multiplication Equipment: G. Forcina, W. S. Oei, T. Oishi and J. F. Phiel 415

CCITT/ANSI Voice Packetization Protocol: M. H. Sherif, R. J. Clark and G. P. Forcina 429

Wideband Packet Technology in the Integrated Access and Cross-Connect System (IACS): M. H. Sherif, A. D. Malaret-Collazo and M. C. Gruensfelder 437

New Trends in Digital Circuit Multiplication Technology: J. Piasetzky 445

The DTX-240D Digital Circuit Multiplication System: R. Murphy 453

The Development of an Open-network Digital Circuit Multiplication Equipment System: L.-O. Kihlström, N. Viklund and D. Bridgewater 461

Circuit Multiplication Equipment: C. Bareyt, A. Karas, J. Salomon and P. Aboaf 491

Advanced Techniques for Circuit Multiplication: Celtic 3G: P. Aboaf and R. Bailly 499

The Use of Digital Circuit Multiplication Equipment in Satellite Communications: N.-E. Viklund and C. Nycander 507

AUTHOR INDEX 515

KEY WORD INDEX 516